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ORIGINAL

**Survey and Documentation Services  
12<sup>th</sup> Street Landfill Site  
Wilmington, Delaware**

**(Schnabel Reference 00151122)**

**Schnabel   
Engineering**

# Schnabel Engineering

Schnabel Engineering Associates, Inc.  
510 East Gay Street  
West Chester, PA 19380  
610-696-6066 • Fax 610-696-7771

August 11, 2000

Guardian Environmental Services, Inc.  
1280 Porter Road  
Bear, DE 19701

Attn: Mr. Robert Thom

Subject: Contract 00151122, Survey and Documentation  
Services, 12<sup>th</sup> Street Landfill Site, Wilmington,  
Delaware

Gentlemen:

We are pleased to present this letter report for inspection services provided for the above mentioned project. These services were provided in accordance with our agreement dated August 8, 2000.

Personnel from our office conducted exterior pre-construction surveys on three structures within 300 ft of the projected pile driving locations. This report consists of written notes, measurements, sketches, a videotape, and photographs necessary to document the existing condition of each structure at the time of our survey.

The attached surveys were conducted in as complete and thorough a manner as possible in the time available. It is to be expected that due to time constraints and other circumstances, some pre-existing conditions will go unnoticed and unnoted. Also, structures are dynamic in nature and, as such, are subject to a variety of internal and external forces, as is evidenced by the annotated pre-construction conditions. The forces acting upon a structure do not terminate upon the inception of pile driving operations in the area. For the aforementioned reasons, this pre-construction survey can be used as a damage reference only if supported by seismographic or other geophysical data developed during construction.

The following structures were surveyed adjacent to proposed pile driving operations at the 12<sup>th</sup> Street Landfill Site:



Original

| STRUCTURE   | GENERAL BUILDING INFORMATION   |
|---|--|
| Retaining wall at 12 <sup>th</sup> Street<br>Landfill, Wilmington, DE<br>Structure #1 | Concrete retaining wall facing W/SW, 150 x 8 ft high section of solid concrete was surveyed. It is approximately 20 inches wide at the top and tapers to the east. Structure is supported by wooden pilings. A variety of cracks and some erosion were noted on the concrete structure.<br><br>Video Tape Counter Locations:<br>Exterior (Tape 1) – 0:00:00 to 0:04:43<br><br>Field Report, Drawings and Photographs – Attachment 2          |
| Stone Wall<br>Structure #2  | Structure #2 is an old stone wall that is severely damaged. The structure is only visible when the river is at low tide. The structure for the most part has already fallen into the river.<br><br>Video Tape Counter Locations:<br>Exterior (Tape 1) – 0:04:44 to 0:06:07<br><br>Drawings – Attachment 3  |
| Asset Recovery Services<br>Warehouse<br>Structure #3                                  | Structure #3 is a single level warehouse with aluminum siding supported on a concrete foundation. A variety of cracks were noted on the foundation wall of Structure #3. The aluminum siding of Structure #3 was also damaged in several places. Only the exterior of the building was surveyed.<br><br>Video Tape Counter Locations:<br>Exterior (Tape 1) – 0:06:08 to 0:19:25<br><br>Field Report, Drawings and Photographs – Attachment 4 |

We have endeavored to provide the professional services as reported herein in accordance with generally accepted geoscience practice, and make no warranties, either expressed or implied, as to the services provided under the terms of this agreement and included herein.

We appreciate the opportunity to be of service to you on this project. Please feel free to contact us if you have any questions regarding this report.

Guardian Environmental Services, Inc.

August 11, 2000

Page 3

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Very truly yours,

SCHNABEL ENGINEERING ASSOCIATES, INC.

(b) (4)

Senior Technician

(b) (4)

Senior Consultant

JTK:DAA:cml

Attachments

- (1) Location Plan
- (2) Structure #1 Field Report, Drawings and Photographs
- (3) Structure #2 Drawing
- (4) Structure #3 Field Report, Drawings and Photographs

cc: Guardian Environmental Services, Inc. (2)

Attn: (b) (4)

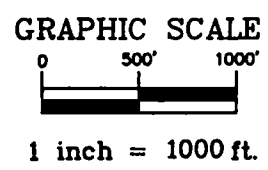
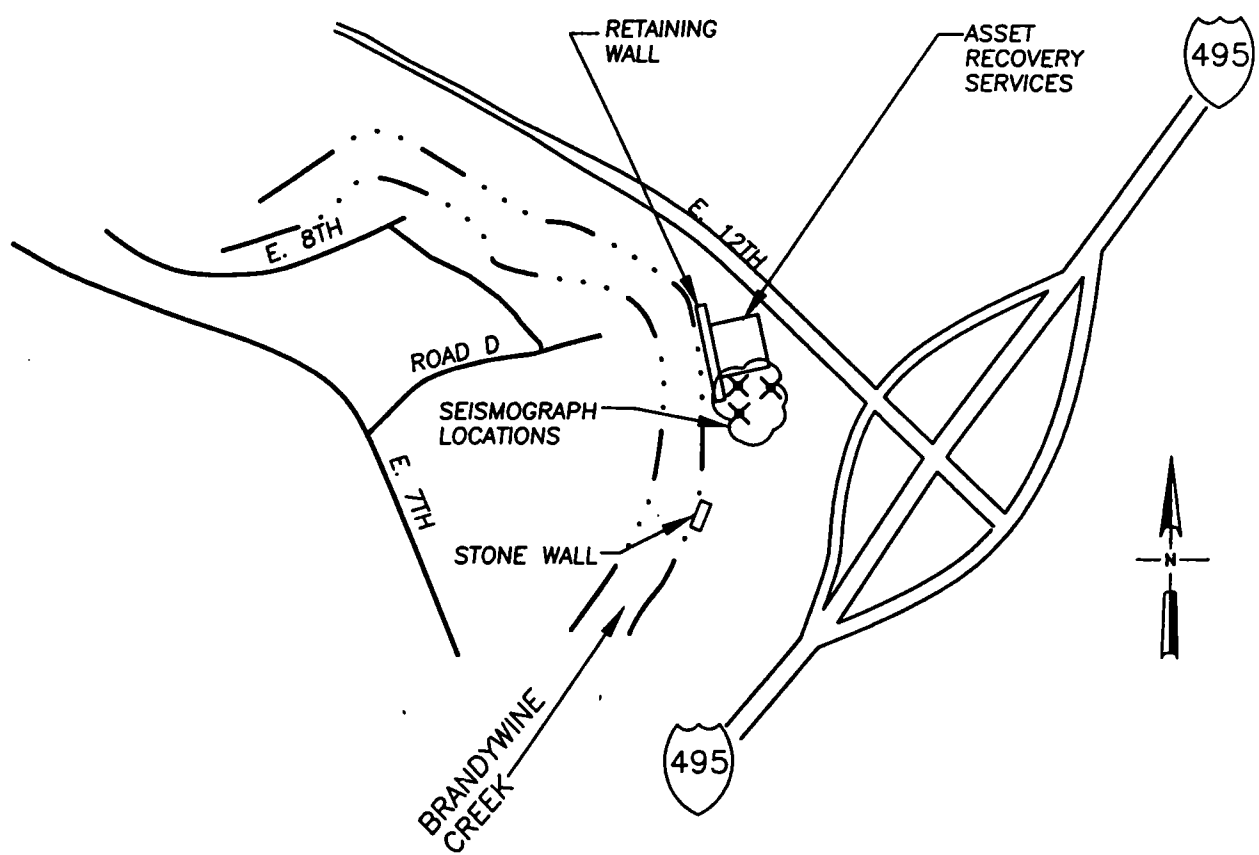
Schnabel Engineering Associates

Original  
ATTACHMENT 1

**Location Plan**

SURVEY AND DOCUMENTATION SERVICES  
 12TH STREET LANDFILL SITE  
 WILMINGTON, DELAWARE  
 00151122

LOCATION PLAN



**Schnabel**  
**Engineering**

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**ATTACHMENT 2**

**Structure #1 Field Report, Drawings and Photographs**

# FIELD REPORT EXISTING STRUCTURAL CONDITIONS

SHEET 1 OF 4

CLIENT: GAUDDIAN EQUIPO SERV. LOCATION: 12TH ST LANDFILL WILMINGTON  
 INSPECTOR: (b) (4) JOB NO.: 90151122 PERMIT NO.:  
 DATE: 8/8/00 TIME OF INSPECTION: 1:00 PM A.M. ☐ P.M. ☒  
 COMPLETE ☐ INTERIOR ☐ EXTERIOR ☒ REFUSAL ☐ SURVEY DONE: BEFORE ☒ AFTER ☐ DURING ☐  
 OCCUPANT: ASSET RECOVERY SERV. OWNER ☐ TENANT ☒  
 ADDRESS: 1330 E. 12TH ST. ESTIMATE - AGE 40+ YEARS  
 OWNER & ADDRESS: BRANDYLINE INDUSTRIAL COMPLEX 1330 E. 12TH ST.

## GENERAL DESCRIPTION

FOUNDATION: CONCRETE ☒ CONC. BLOCK ☐ BRICK ☐ OTHER ☐  
 HOUSE SIDING: BRICK ☐ WOOD ☐ ALUMINUM ☐ VINYL ☐ COMMENTS: CONC. EXTERIOR WALL  
 ROOF: ASPHALT SHINGLE ☐ SLATE ☐ OTHER ☒ COMMENTS: NO ROOF  
 CHIMNEY: BRICK ☐ BLOCK ☐ OTHER ☐ COMMENTS: NONE  
 NUMBER OF STORIES:                      PICTURE NO.: - 22 PICTURES TAKEN / 2 VIDEOS  
 PORCH: F S R ☐ F S R ☐ HOUSE LENGTH: 50 YD. HEIGHT: 10'  
 BROKEN GLASS: N ☐ E ☐ S ☐ W ☐ NATURE OF GROUND: ON BRANDYLINE RIVER  
 SIDEWALKS: N ☐ E ☐ S ☐ W ☐ FLAT ☐ HILLY ☐ FILL ☐  
 MORTAR JOINTS CRACKED: YES ☐ NO ☐ WATER PRESSURE: HIGH ☐ LOW ☐ MED ☐  
 WATER: CITY ☐ WELL ☐ OTHER ☐ WATER QUALITY: CLEAR ☐ MILKY ☐ RUSTY ☐  
 HOUSE FACES: N ☐ E ☐ S ☐ W ☒ BASEMENT: YES ☐ NO ☐

## DRAINAGE

GUTTERS: YES ☐ NO ☐ COMMENTS: NONE  
 DOWN SPOUT: YES ☐ NO ☐ COMMENTS: NONE  
 D.S. DRAINS TO: EARTH ☐ THROUGH ☐ CATCHBASIN ☐ SEWER ☐  
 EROSION NEAR FOUNDATION WALL: YES ☒ NO ☐ COMMENTS:                       
 BUILDING SETTLED: YES ☒ NO ☐ COMMENTS:                     

COMMENTS: ONE STORY CONC. WALL FACING W/SEW ON BRANDYLINE RIVER - WATER RETAINING WALL APPROXIMATELY - 8' HIGH & 50 YARD SECTION WIDE TO BE DOCUMENTED -  
- ALSO INCLUDED, 30' SECTION OF STONE WALL 600' S OF RETAINING WALL - 20" THICK @ TOP

INSPECTOR: (b) (4)

REVIEWED BY:                     

## KEY OF SYMBOLS:

CRACK -  
 NAIL POP - NP  
 HAIRLINE - HL  
 BUILDING - BLD  
 SUSPENDED TILE - ST  
 ACOUSTICAL TILE - AT  
 VINYL TILE - VT  
 WOOD - WD

SEPARATION - SEP  
 BAD SEAM - BS  
 UNEVEL CEILING - UC  
 CONCRETE BLOCK - CONC. BL  
 BRICK - BK  
 PANELING - PL  
 WALLPAPER - WP  
 CERAMIC TILE - CT

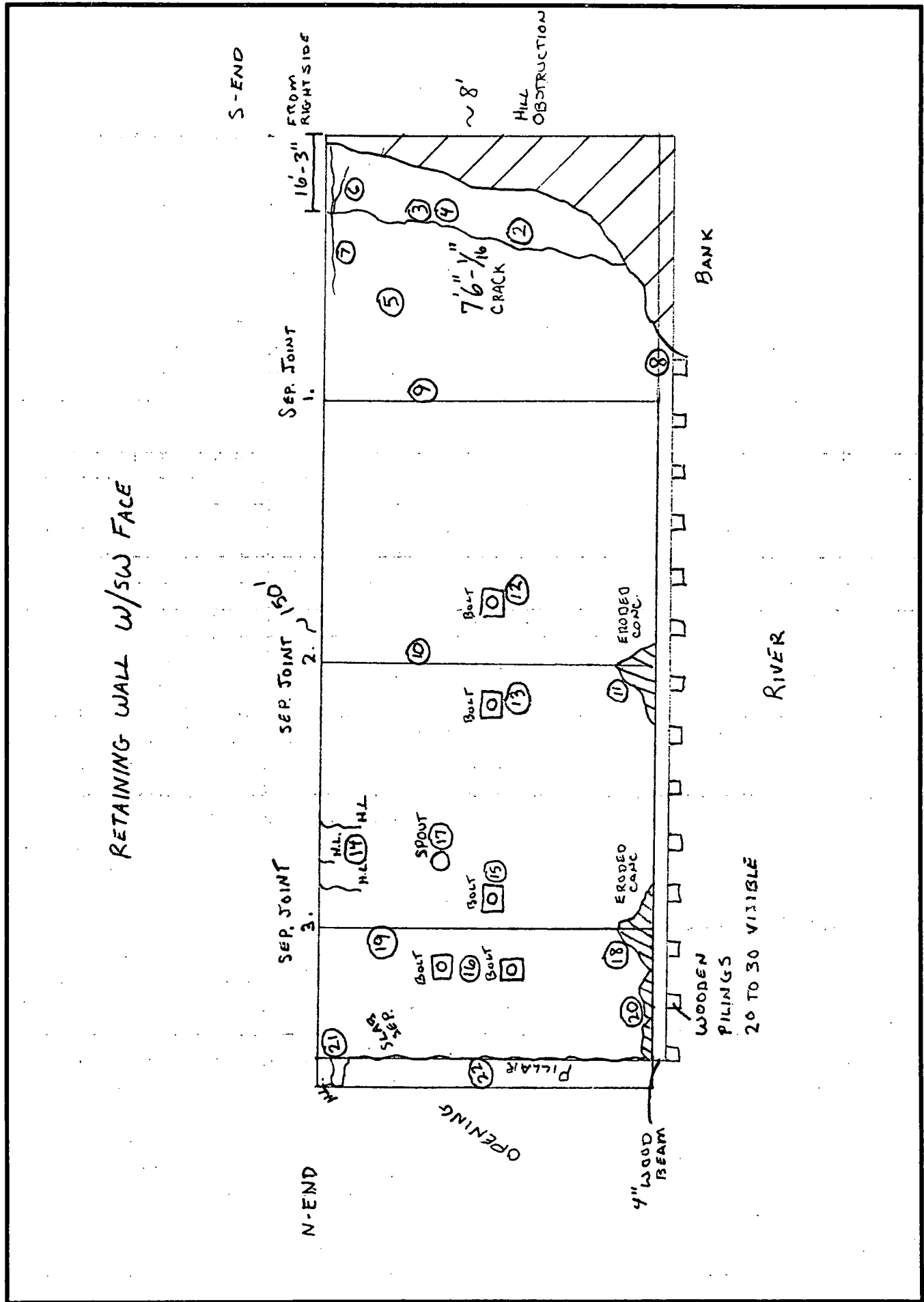
UNEVEL FLOORS - UF  
 BENT WALL - BW  
 SHEETROCK - SR  
 CARPET - C  
 FOUNDATION - FDN  
 BROKEN GLASS - BG  
 WATER STAIN - WS  
 MORTAR JOINT SEPARATION - MJS

PLASTER - P  
 FIREBOARD - FB  
 CONCRETE - CONC.  
 CRAZING - CR  
 SPALLING - SPL  
 PEELING PAINT - PP

# SCHNABEL ENGINEERING ASSOCIATES

BY ..... DATE .....  
 CHKD. BY ..... DATE .....  
 SUBJECT .....

SHEET NO. 2 OF 4 ORIGINAL  
 JOB NO. ....



Building Address 1330 E. 12<sup>th</sup> St  
Sheet 3 of 4

General Conditions Of The Structure

| Photograph                 | Description  |
|----------------------------|--|
| Roll #1                    |  |
| Retaining Wall W / SW Face |  |
| 1.                         | General Overview looking South to North                                    |
| 2.                         | Lower half of 7'6" – 1/16" crack 16' from right end of wall                |
| 3.                         | Upper half of 7'6" – 1/16" crack 16' from right end of wall                |
| 4.                         | Up close with ruler scale of 7'6" – 1/16" crack                            |
| 5.                         | Discoloration – rust / lime corrosion of wall                              |
| 6.                         | H.L crack at top of wall ~14' long   |
| 7.                         | H.L crack at top of wall ~16' long and ~ 30' from end of right end of wall |
| 8.                         | Separation of wall and wooden piling                                       |
| 9.                         | Separation joint 1   |
| 10.                        | Separation joint 2   |
| 11.                        | Eroded concrete at bottom of separation joint 2                            |
| 12.                        | Bolt right of separation joint 2   |
| 13.                        | Bolt left of separation joint 2  |
| 14.                        | Hair line crack ~ 1' long between separation joints 2 and 3                |
| 15.                        | Bolt right of separation joint 3   |
| 16.                        | Bolt left of separation joint 3  |
| 17.                        | Spout right of separation joint 3  |
| 18.                        | Eroded concrete at bottom of separation joint 3                            |
| 19.                        | Separation joint 3   |
| 20.                        | Eroded concrete left of separation joint 3                                 |
| 21.                        | H.L crack at top of the N end slab   |
| 22.                        | Slab separation at the N end   |



Retaining Wall Roll #1

Photo 1



Photo 2



Photo 3



Photo 4



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Retaining Wall Roll #1

Photo 5



Photo 6



Photo 7



Photo 8





Retaining Wall Roll #1

Photo 9



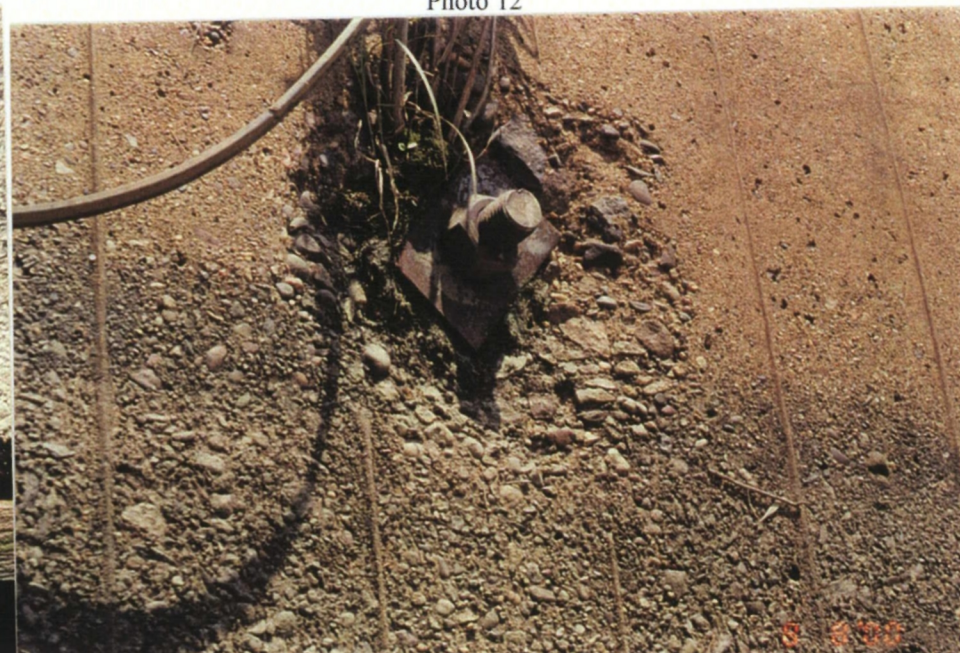
Photo 10



Photo 11



Photo 12





Retaining Wall Roll #1

Photo 13



Photo 14



Photo 15



Photo 16





Photo 17

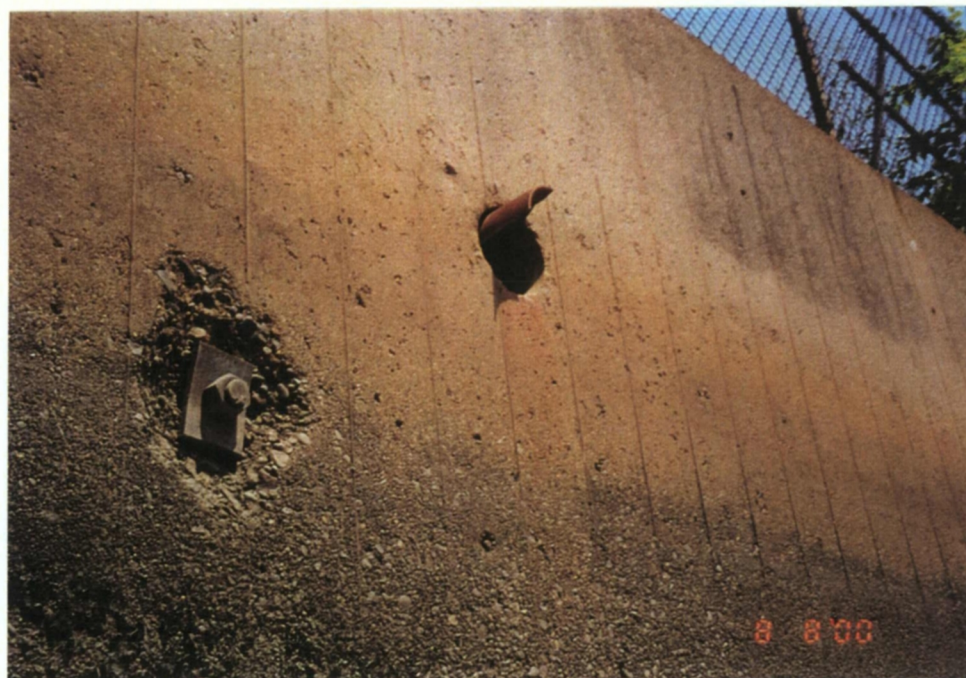


Photo 18

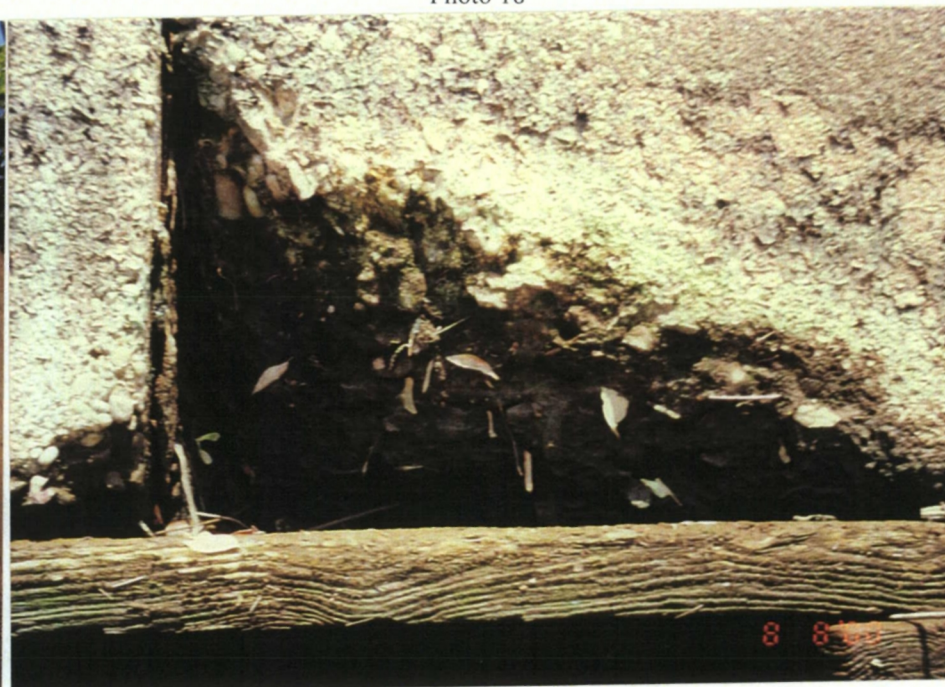
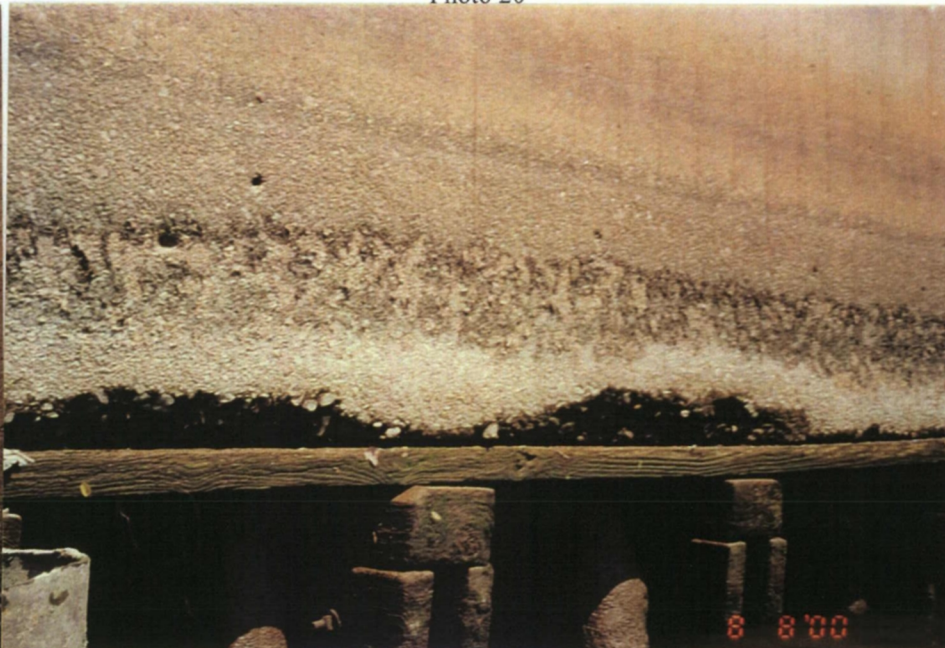


Photo 19



Photo 20





Retaining Wall Roll #1

Photo 21

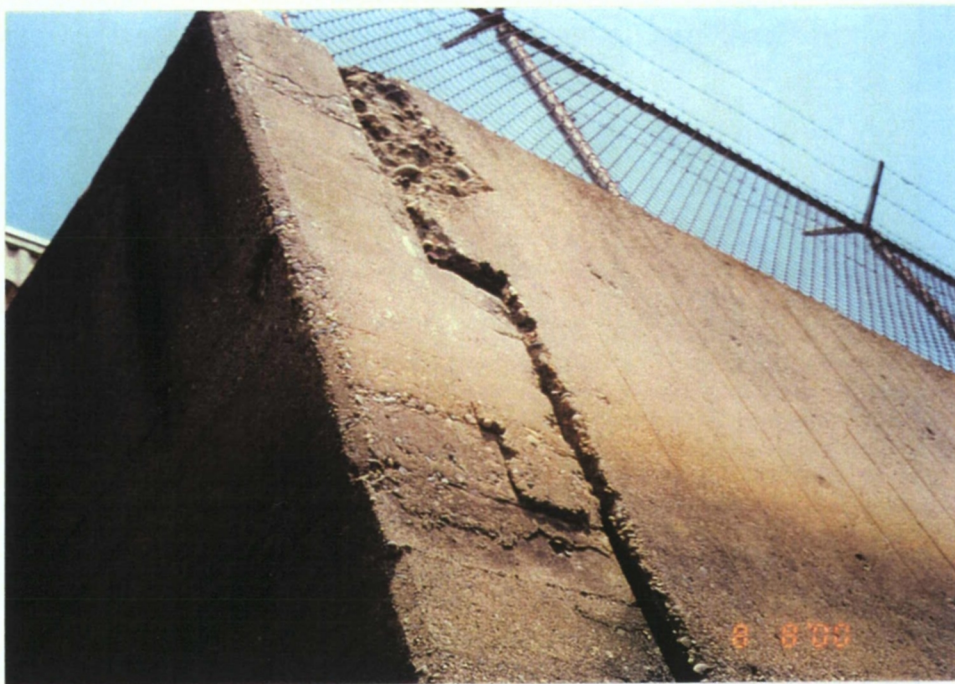


Photo 22



**ATTACHMENT 3**

**Structure #2 Drawing**

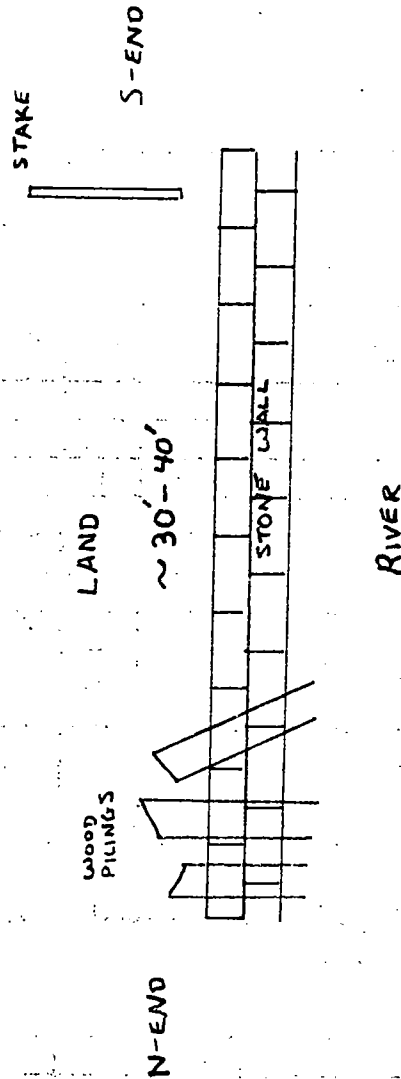
# SCHNABEL ENGINEERING ASSOCIATES

BY ..... DATE .....  
CHKD. BY ..... DATE .....  
SUBJECT .....

SHEET NO. 4 OF 4  
JOB NO. ....

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OVERVIEW ON VIDEO - STONE WALL SECTION (VISIBLE AT LOW TIDE)





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**ATTACHMENT 4**

**Structure #3 Field Report, Drawings and Photographs**

# **FIELD REPORT EXISTING STRUCTURAL CONDITIONS**

ORIGINAL  
SHEET 1 OF 3

CLIENT: GAUPOIAN ENVIRON SERV LOCATION: 12TH ST LANDFILL WILMINGTON DE  
 INSPECTOR: (b) (4) JOB NO.: 00151122 PERMIT NO.:  
 DATE: 8/8/00 TIME OF INSPECTION: 2:30 A.M. ☐ P.M. ☒  
 COMPLETE ☐ INTERIOR ☐ EXTERIOR ☒ REFUSAL ☐ SURVEY DONE: BEFORE ☒ AFTER ☐ DURING ☐  
 OCCUPANT: ASSET RECOVERY SERV. OWNER ☐ TENANT ☒  
 ADDRESS: 1330 E. 12TH ST ESTIMATE - AGE 25 YEARS  
 OWNER & ADDRESS: BRANDYWINE INDUSTRIAL COMPLEX 1330 E. 12TH ST.

## **GENERAL DESCRIPTION**

FOUNDATION: CONCRETE ☒ CONC. BLOCK ☐ BRICK ☐ OTHER ☐  
 HOUSE SIDING: BRICK ☐ WOOD ☐ ALUMINUM ☒ VINYL ☐ COMMENTS: \_\_\_\_\_  
 ROOF: ASPHALT SHINGLE ☐ SLATE ☐ OTHER ☒ COMMENTS: -ALUMINUM?  
 CHIMNEY: BRICK ☐ BLOCK ☐ OTHER ☒ COMMENTS: ALUMINUM  
 NUMBER OF STORIES: 1 PICTURE NO.: TWO ROLLS #1-23 #2-14  
 PORCH: F S R ☐ F S R ☐ HOUSE LENGTH: \_\_\_\_\_ WIDTH: 100'  
 BROKEN GLASS: N ☐ E ☐ S ☐ W ☐ NATURE OF GROUND: CONC. ALL AROUND / DIRTY  
 SIDEWALKS: N ☐ E ☐ S ☐ W ☐ FLAT ☒ HILLY ☐ FILL ☒  
 MORTAR JOINTS CRACKED: YES ☒ NO ☐ ONLY ON ADDITION WATER PRESSURE: HIGH ☐ LOW ☐ MED ☐  
 WATER: CITY ☐ WELL ☐ OTHER ☐ WATER QUALITY: CLEAR ☐ MILKY ☐ RUSTY ☐  
 HOUSE FACES: N ☐ E ☐ S ☐ W ☐ BASEMENT: YES ☐ NO ☐

## **DRAINAGE**

GUTTERS: YES ☒ NO ☐ COMMENTS: ONLY ON ADDITION  
 DOWN SPOUT: YES ☒ NO ☐ COMMENTS: ONLY ON ADDITION  
 D.S. DRAINS TO: EARTH ☒ THROUGH ☐ CATCHBASIN ☐ SEWER ☐  
 EROSION NEAR FOUNDATION WALL: YES ☐ NO ☒ COMMENTS: \_\_\_\_\_  
 BUILDING SETTLED: YES ☒ NO ☐ COMMENTS: SOME H.L. CRACKS IN FOUNDATION WALL

COMMENTS: INSPECTING EXTERIOR WALLS & STRUCTURES OF WARE HOUSE  
MAINLY SOUTH FACE - BUILDING IS ABOUT 40 TO 50 YDS. FROM FIRST  
SHEET PILE DRIVING.

INSPECTOR: (b) (4) REVIEWED BY: \_\_\_\_\_

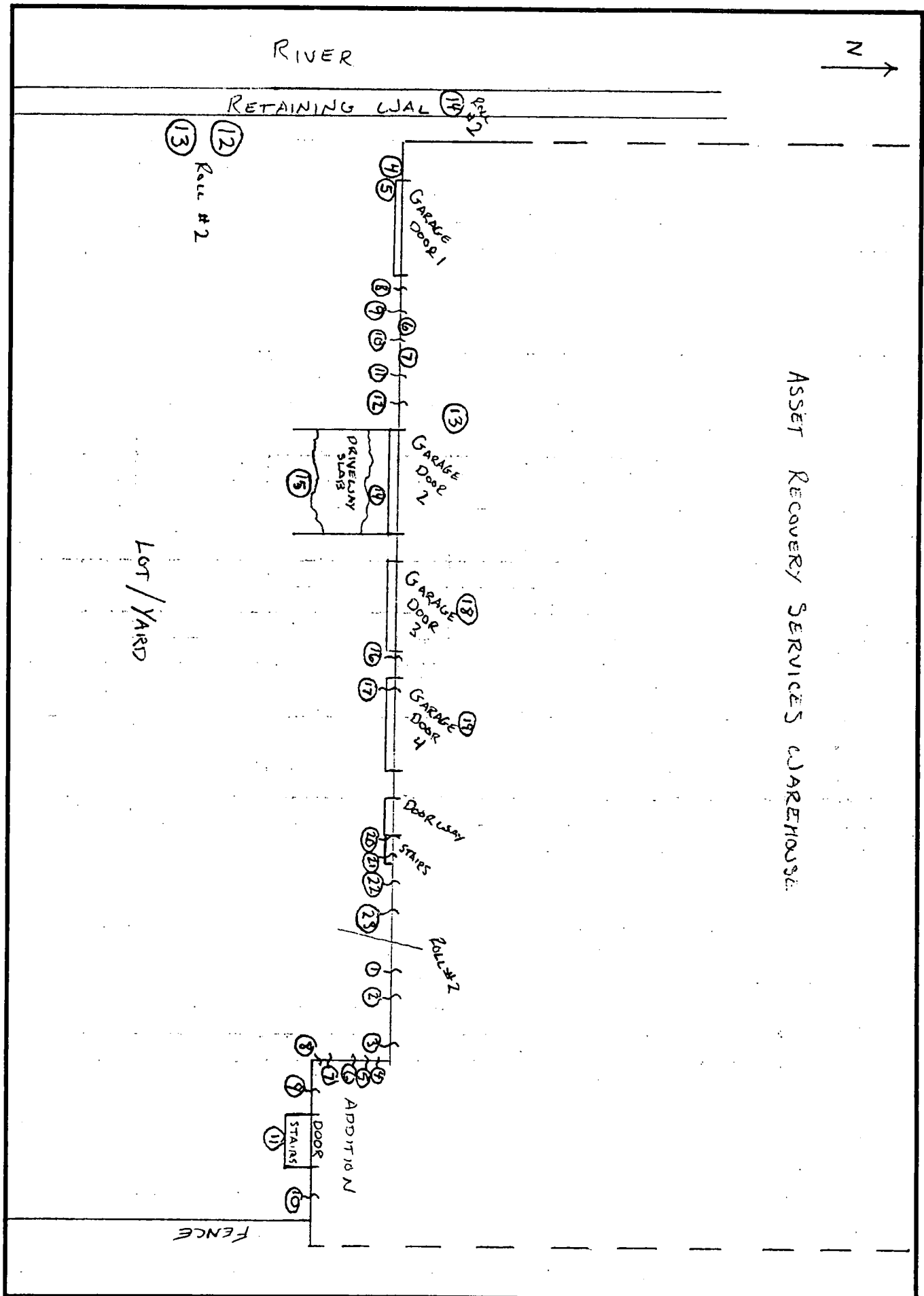
## **KEY OF SYMBOLS:**

CRACK -  
 NAIL POP - NP  
 HAIRLINE - HL  
 BUILDING - BLD  
 SUSPENDED TILE - ST  
 ACOUSTICAL TILE - AT  
 VINYL TILE - VT  
 WOOD - WD  
 SEPARATION - SEP  
 BAD SEAM - BS  
 UNEVEL CEILING - UC  
 CONCRETE BLOCK - CONC. BL  
 BRICK - BK  
 PANELING - PL  
 WALLPAPER - WP  
 CERAMIC TILE - CT

UNEVEL FLOORS - UF  
 BENT WALL - BW  
 SHEETROCK - SR  
 CARPET - C  
 FOUNDATION - FDN  
 BROKEN GLASS - BG  
 WATER STAIN - WS  
 MORTAR JOINT SEPARATION - MJS

PLASTER - P  
 FIREBOARD - FB  
 CONCRETE - CONC.  
 CRAZING - CR  
 SPALLING - SPL  
 PEELING PAINT - PP

SHEET NO. 2 OF 3  
JOB NO. 0-1000



General Conditions Of The Structure

| Roll #1 | Photograph  | Description  |
|---------|---|--|
|         | <b>Warehouse Asset Recovery Services South Face</b> |  |
|         | 1.  | West side overview   |
|         | 2.  | East side overview   |
|         | 3.  | East side overview (further right)   |
|         | 4.  | Damaged siding along garage door #1  |
|         | 5.  | Damaged siding along garage door #1  |
|         | 6.  | Damaged siding along Foundation wall ~ 10' right of garage door #1   |
|         | 7.  | Damaged siding along Foundation wall ~ 12' right of garage door #1   |
|         | 8.  | H.L cracks between garage doors 1 & 2 in foundation wall between 2 and 4 feet long ~6' right of Garage door 1          |
|         | 9.  | H.L cracks between garage doors 1 & 2 in foundation wall between 2 and 4 feet long ~ 10' right of Garage door 1        |
|         | 10.   | H.L cracks between garage doors 1 & 2 in foundation wall between 2 and 4 feet long ~13' right of Garage door 1         |
|         | 11.   | H.L cracks between garage doors 1 & 2 in foundation wall between 2 and 4 feet long ~ center line between the two doors |
|         | 12.   | H.L cracks between garage doors 1 & 2 in foundation wall between 2 and 4 feet long ~ 15' left of Garage door 2.        |
|         | 13.   | Cracked siding to upper left of Garage door 2  |
|         | 14.   | Garage door 2 driveway slab crack about 8 to 10 feet long.   |
|         | 15.   | Garage door 2 driveway slab crack about 8 to 10 feet long.   |
|         | 16.   | H.L. crack bottom right of Garage door ~2' long  |
|         | 17.   | H.L crack under Garage door 4 about 3 to 4 feet long   |
|         | 18.   | Damaged siding above Garage door 3   |
|         | 19.   | Damaged siding above Garage door 4   |
|         | 20.   | H.L crack just right of door way next to stairs between 1 and 3 feet long  |
|         | 21.   | H.L crack just right of door way ~2' right of stairs between 1 and 3 feet long   |
|         | 22.   | H.L crack just right of door way ~5' right of stairs between 1 and 3 feet long   |
|         | 23.   | H.L crack at about center line between door way and addition   |
| Roll #2 |   |  |
|         | 1.  | H.L crack 2 to 3 feet long, ~16' left of addition, #2 ~ 14' left of addition   |
|         | 2.  | H.L crack 2 to 3 feet long, ~ 14' left of addition   |
|         | 3.  | Two H.L cracks down the center of settling joints left of addition ~ 3' long   |
|         | 4.  | Mortar joint cracks on addition  |
|         | 5.  | Separation crack 8" down from siding   |
|         | 6.  | Separation between blocks and exterior mortar ~ 9' from warehouse S. face  |
|         | 7.  | Separation crack on addition mortar (W face)   |
|         | 8.  | Separation crack on addition mortar (W face)   |
|         | 9.  | Mortar crack S- face of addition ~ 10' long  |
|         | 10.   | Mortar crack S- face of addition extending the rest of the way across S face   |
|         | 11.   | Separation between stairs & concrete base  |
|         | 12.   | Unstable structures in lot west side near retaining wall fence   |
|         | 13.   | Unstable structures in lot west side near retaining wall fence   |
|         | 14.   | Overview of backside of retaining wall looking N to S (rest of backside obstructed)                                    |



Warehouse Roll #1

Photo 1



Photo 2



Photo 3



Photo 4



Original



Warehouse Roll #1

Photo 5



Photo 6



Photo 7

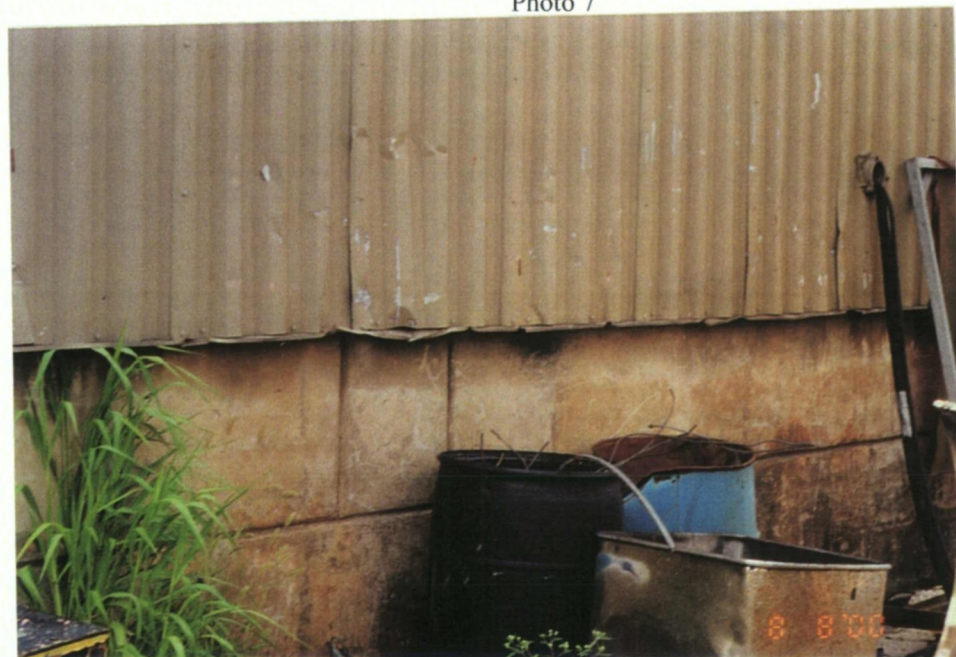
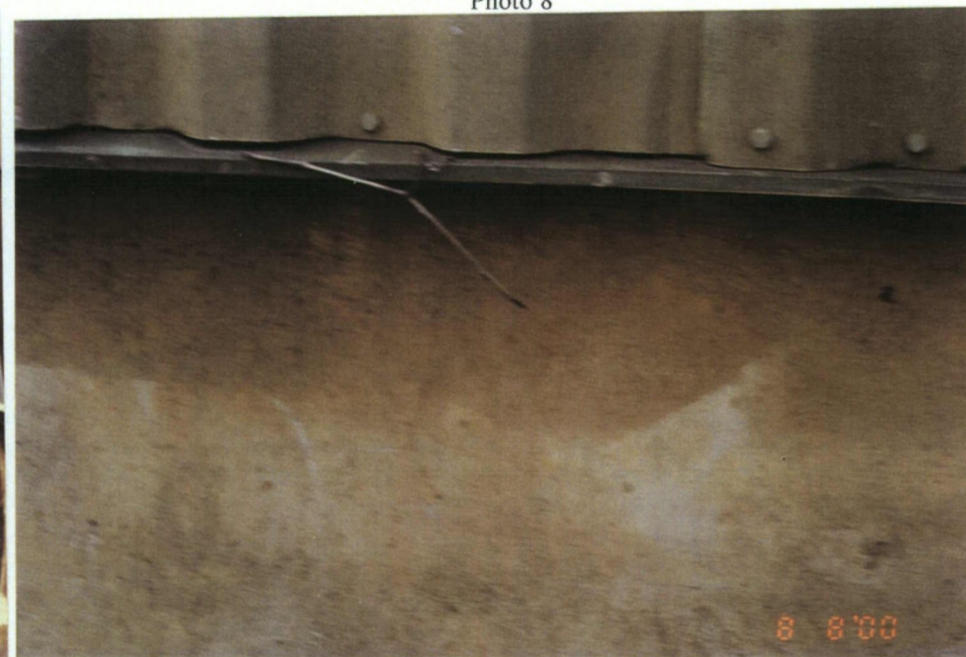


Photo 8



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Warehouse Roll #1

Photo 9



Photo 10



Photo 11



Photo 12





Warehouse Roll #1

Photo 13



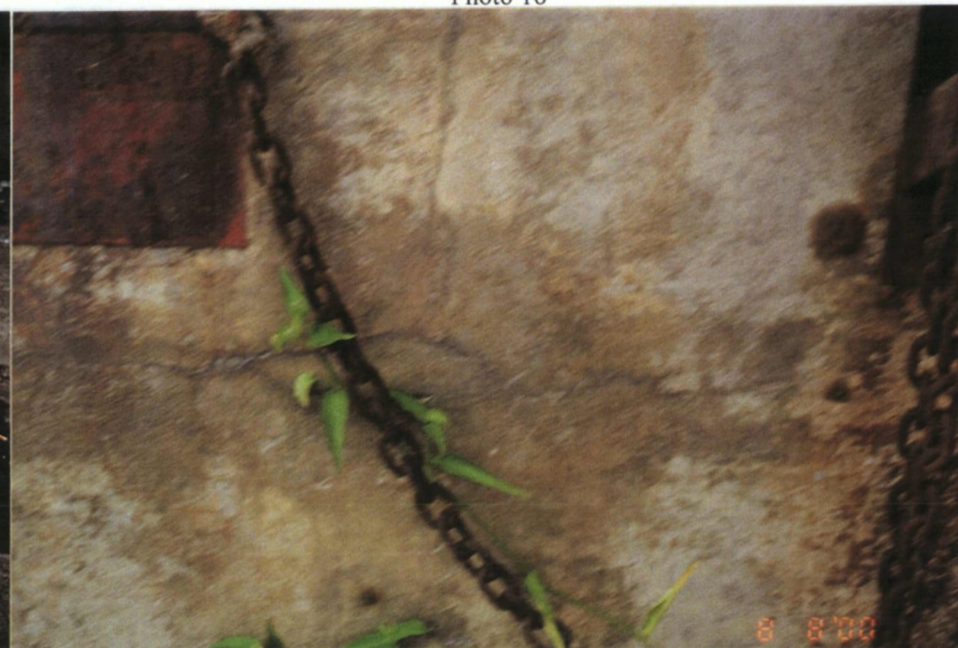
Photo 14



Photo 15



Photo 16



ORIGINAL



Photo 17



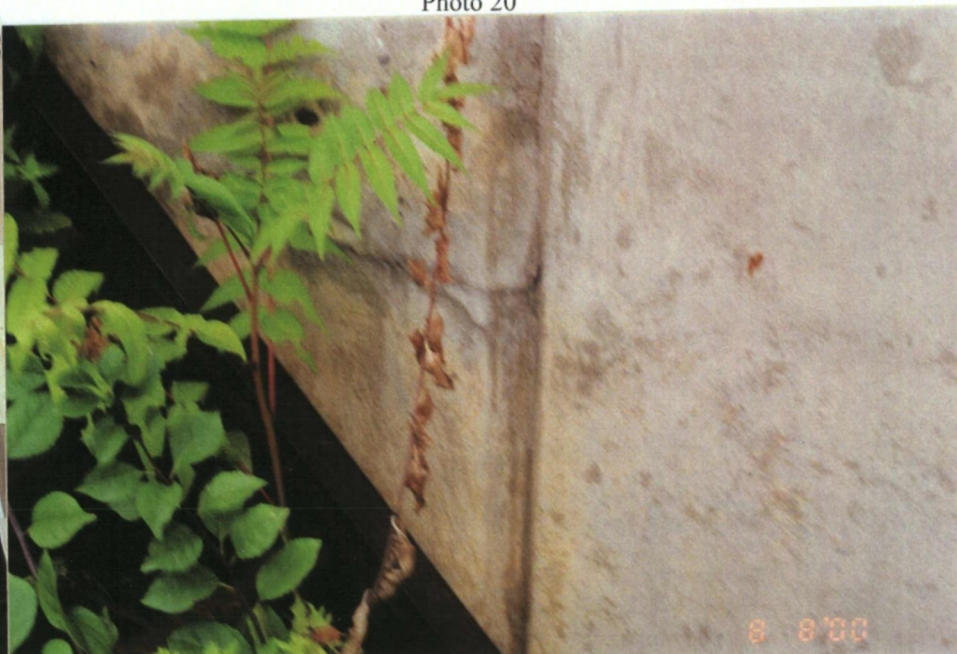
Photo 18



Photo 19



Photo 20





Warehouse Roll #1

Photo 21



Photo 22



Photo 23



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Warehouse Roll #2

Photo 1



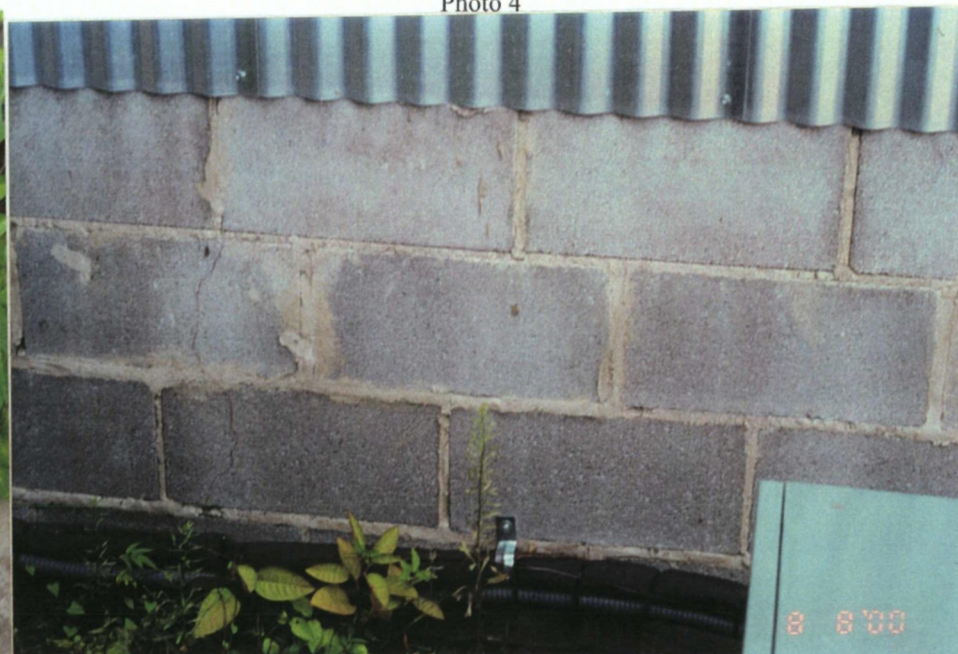
Photo 2



Photo 3



Photo 4



ORIGINAL



Photo 5



Photo 6



Photo 7



Photo 8

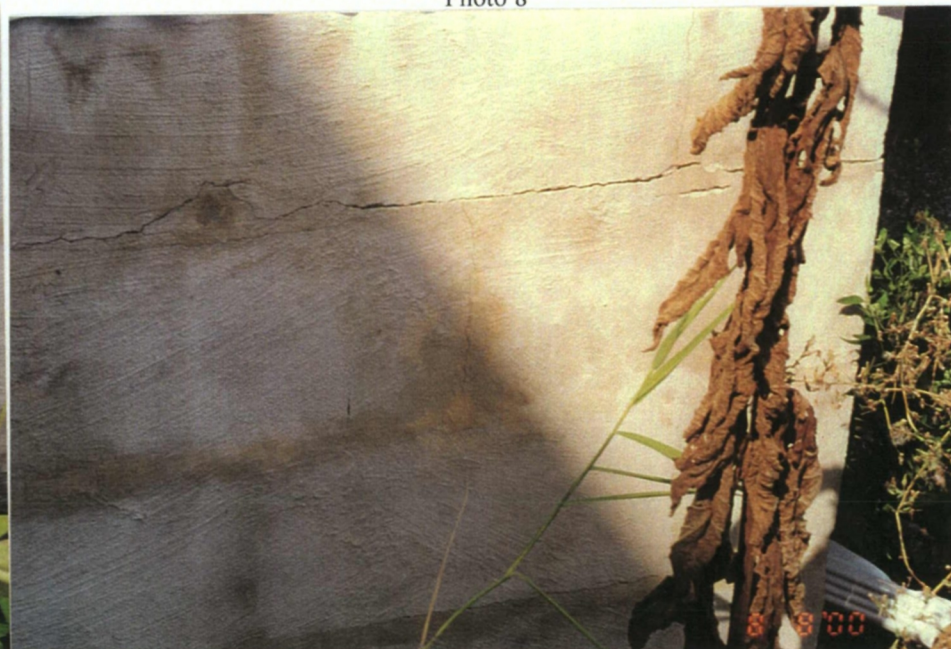




Photo 9



Photo 10



Photo 11

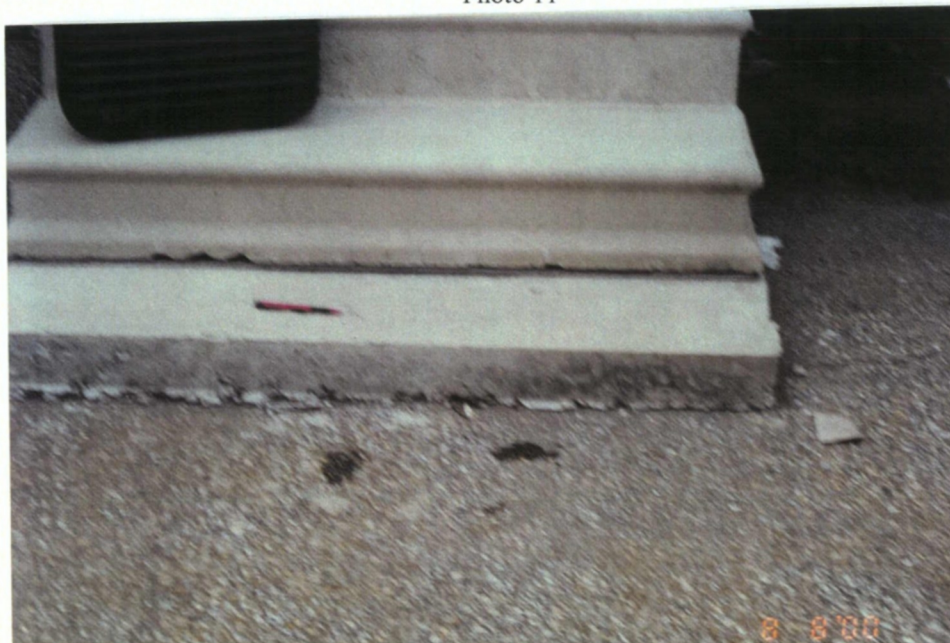
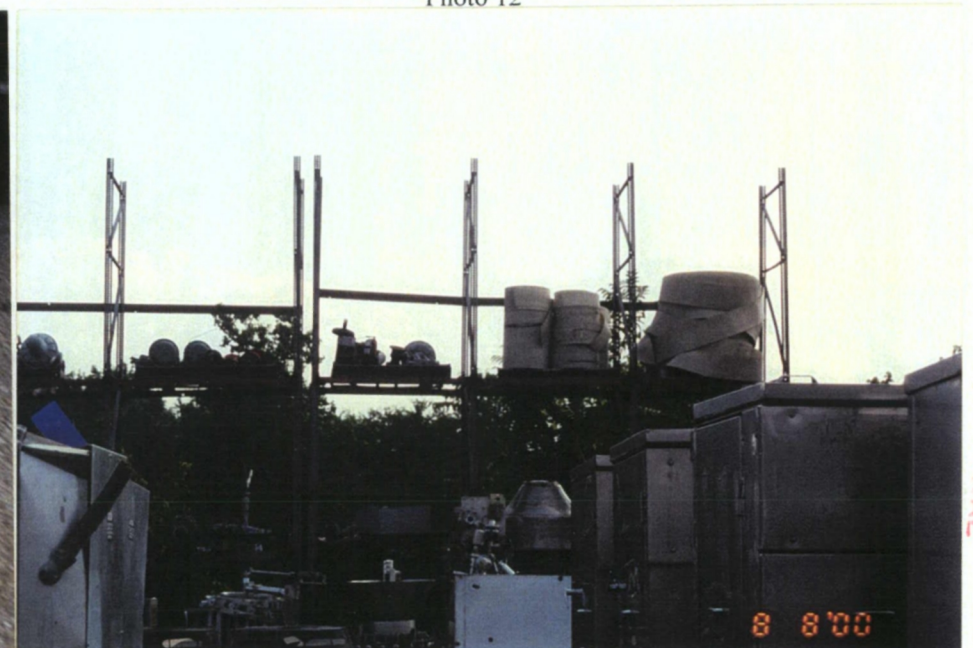


Photo 12



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Warehouse Roll #2

Photo 13



Photo 14



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